COMBINED BUFFERING OF INFINIBAND VIRTUAL LANES AND QUEUE PAIRS

ABSTRACT

A system and method for shared buffering of InfiniBand virtual lanes and queue pairs. Instead of allocating dedicated memory space (e.g., a set of FIFO queues), a shared memory dynamically accommodates traffic received on different virtual lanes and/or queue pairs of an InfiniBand network. A multi-port RAM comprises memory buckets or elements for storing contents of InfiniBand packets. For each queue pair and/or virtual lane, matching head and tail pointers identify the first and last elements of a linked list of traffic buffered from that queue pair or virtual lane. A multi-port control structure mirrors the RAM. For each node in a queue pair or virtual lane's linked list, a corresponding entry in the control structure relates to the corresponding memory element and stores an identifier of the memory element and control entry corresponding to the next node in the linked list.